Public Health Guidance for Community-Level Preparedness and Response to Severe Acute Respiratory Syndrome (SARS) Version 2

Supplement B: SARS Surveillance

Summary of Changes in Version 2

This version of Supplement B includes the revised U.S. SARS surveillance case definition and an updated domestic case reporting form. The revised surveillance case definition reflects changes in the interim position statement on SARS surveillance adopted by the Council of State and Territorial Epidemiologists (CSTE) in November 2003.

The current version of Supplement B clarifies and revises questions to be used by healthcare providers to screen persons requiring hospitalization for radiographically confirmed pneumonia. The screening question related to travel now includes specific geographic locations that are likely sites for a reappearance of SARS-CoV. Employment in a laboratory that contains live SARS-CoV has been added as an epidemiologic risk factor for SARS-CoV exposure.

The revised Supplement clarifies that, in the absence of SARS-CoV transmission in the world, children hospitalized for radiographically confirmed pneumonia need not be screened for potential SARS-CoV disease, unless circumstances suggest that a child might be at high risk for exposure to SARS-CoV.

The recommendations for surveillance in healthcare settings have been revised for consistency with the recommendations in Supplement C. The guidance clarifies that, in a setting of ongoing SARS-CoV transmission in a facility or community, the presence of either fever *or* lower respiratory symptoms should prompt further evaluation. In addition, in accordance with the new SARS case definition, when persons have a high risk of exposure to SARS-CoV (e.g., persons previously identified through contact tracing or self-identified as close contacts of a laboratory-confirmed case of SARS-CoV disease; persons who are epidemiologically linked to a laboratory-confirmed case of SARS-CoV disease), the clinical screening criteria should be expanded to include, in addition to fever or lower respiratory symptoms, the presence of any early symptoms of SARS-CoV disease.

The current version provides some guidance for prioritization of contacts for monitoring if health department resources become overburdened during an ongoing outbreak. General reporting requirements have also been clarified.

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SARS Surveillance

Goals

- Maximize early detection of cases and clusters of respiratory infections that might signal the re-emergence of SARS-CoV disease while minimizing unnecessary laboratory testing, concerns about SARS-CoV, implementation of control measures, and social disruption.
- If SARS-CoV transmission recurs, maintain prompt and complete identification and reporting of potential cases to facilitate outbreak control and management.
- Identify and monitor contacts of cases of SARS-CoV disease to enable early detection of illness in persons at greatest risk.

Key concepts

- The early clinical features of SARS-CoV disease are not specific enough to reliably distinguish it from other respiratory illnesses.
- Risk of exposure is key to considering the likelihood of a diagnosis of SARS-CoV disease.
- Most patients with SARS-CoV disease have a clear history of exposure to another SARS patient or to a setting where SARS-CoV transmission is occurring.
- SARS-CoV transmission is usually localized and often limited to healthcare settings or households.
- A cluster of atypical pneumonia in healthcare workers may indicate undetected SARS–CoV transmission.
- In a setting of extensive SARS-CoV transmission, the possibility of SARS-CoV disease should be considered in all persons with a fever or lower respiratory illness, even if an epidemiologic link cannot be readily established.
- Up-to-date information on the transmission of SARS-CoV globally is needed to accurately assess exposure risks.
- Contact tracing is resource intensive yet critical to containment efforts as it allows early recognition of illness in persons at greatest risk.
- Frequent communication among public health officials and healthcare providers, real-time analysis of data, and timely dissemination of information are essential for outbreak management.
- Swift action to contain disease should be initiated when a potential case is recognized, even though information sufficient to determine case status may be lacking.

Priority activities

- Educate clinicians and public health workers on features that can assist in early recognition of SARS and on guidelines for reporting SARS-CoV cases.
- Develop tools to identify, evaluate, and monitor contacts of SARS-CoV patients.
- Establish an efficient data management system that links clinical, epidemiologic and laboratory data on cases of SARS-CoV disease and allows rapid sharing of information.
- Identify surge capacity for investigation of cases and identification, evaluation, and monitoring of contacts in the event of a large SARS outbreak.

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I. Rationale and Goals

The key to controlling a SARS outbreak is prompt detection of cases and their contacts, followed by rapid implementation of control measures. Identification of SARS cases is the basic step in prevention efforts, whereas contact tracing provides a means to focus case-finding and containment efforts on persons who are at greatest risk of SARS-CoV disease. Two features of SARS-CoV disease pose challenges for case surveillance. First, the early signs and symptoms are not specific enough to reliably distinguish SARS-CoV disease from other common respiratory illnesses. Second, existing laboratory diagnostic tests are not adequately sensitive early in the course of illness. Therefore, risk of exposure (i.e., to another case of SARS-CoV disease or to a setting where SARS-CoV transmission is occurring) is key to considering the likelihood of a diagnosis of SARS-CoV disease.

Potential sources of SARS-CoV for future exposures include persistent infection in previously ill persons or reintroduction to humans from an animal reservoir. In the absence of SARS-CoV transmission worldwide, the most likely sites of recurrence are the original site of introduction of SARS-CoV from animals to humans and locations where person-to-person SARS-CoV transmission previously occurred. Laboratories that contain live SARS-CoV could be a source of further transmission if compromised laboratory techniques result in laboratory-acquired infections. Because persons with SARS-CoV disease tended to appear in clusters (e.g., in healthcare facilities, households, and a few special settings) during the 2003 outbreaks, early signals of the reappearance of the illness in U.S. communities could include unusual clusters of unexplained pneumonia.

In the presence of person-to-person SARS-CoV transmission anywhere in the world, patients with SARS-CoV disease or sites of SARS-CoV transmission become the most likely sources of exposure. Contact tracing, the identification of persons who had contact with a potential case of SARS-CoV disease or may have been exposed while present in locations (e.g., hospitals) with known SARS-CoV transmission, is essential for the implementation of appropriate measures to reduce further spread of the disease.

The overall goals of SARS surveillance are to:

- Maximize early detection of cases and clusters of respiratory infections that might signal the re-emergence of SARS-CoV disease while minimizing unnecessary laboratory testing, concerns about SARS-CoV, implementation of control measures, and social disruption.
- If person-to-person SARS-CoV transmission recurs, maintain prompt and complete identification and reporting of potential cases to facilitate outbreak control and management.
- Identify and monitor contacts of cases of SARS-CoV disease to enable early detection of illness in persons at greatest risk.

II. Lessons Learned

The following lessons from the global experience with SARS surveillance have been considered in developing this document:

- Astute healthcare providers will likely be the key to early detection and reporting of initial cases of SARS-CoV disease.
- The key to recognizing persons with SARS-CoV disease is identification of an epidemiologic link of exposure to another case of SARS-CoV disease or to a setting (e.g., hospital) where SARS-CoV transmission is occurring.
- Screening criteria for epidemiologic linkages need to reflect 1) the status of SARS-CoV transmission globally and the risk of exposure from international and domestic travel, and 2) the status of SARS

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activity in the community, at the work site, or in other settings where a patient with SARS-like illness may have been.
- In a setting of extensive SARS-CoV transmission, the possibility of SARS-CoV disease should be considered in all persons with a fever or lower respiratory illness, even if an epidemiologic link cannot be readily established.
- Healthcare facilities were disproportionately affected by SARS-CoV, and healthcare workers were among the first and most severely affected groups in every large outbreak reported.
- Contact tracing is resource intensive yet critical to containment efforts since it allows early recognition of illness in persons at greatest risk.
- Collection of appropriate and timely clinical specimens for laboratory testing is central to monitoring the status of SARS-CoV transmission at the local, state, and federal levels.
- Timely reporting of cases, updates on the clinical status and disposition of patients, real-time analysis of data, and timely dissemination of information are essential for outbreak-management decisions.
- Paper-based reporting systems are too slow and labor intensive to manage a large SARS outbreak. A rapid and efficient electronic reporting system that facilitates real-time analysis of clinical, epidemiologic, and laboratory information at the local level is essential.
- Frequent communication and data sharing among public health officials and healthcare providers are needed to update the status of potential and confirmed cases of SARS-CoV disease.

III. SARS-CoV Disease: Case Definition and Status as a Nationally Notifiable Disease

During the 2003 epidemic, CDC and the Council of State and Territorial Epidemiologists (CSTE) developed surveillance criteria to identify persons with SARS. The surveillance case definition changed throughout the epidemic as understanding of the clinical, laboratory, and transmission characteristics of SARS-CoV increased. On June 26, 2003, CSTE adopted a position statement to add SARS-CoV disease to the list of nationally reportable diseases. The position statement included criteria for defining a SARS case for national reporting. On October 30, CSTE issued a new interim position statement (http://www.cste.org/position%20statements/searchbyyear2004.asp), with a revised SARS case definition. The position statement and case definition were revised further on November 3. The revised CSTE case definition, subsequently adopted by CDC (http://www.cdc.gov/ncidod/sars/casedefinition.htm), will be the basis for ongoing SARS surveillance. Future revisions to the CSTE SARS position statement will be posted on the CSTE website (http://www.cste.org/), as necessary.

Surveillance case definitions are used primarily for identifying and classifying cases for national reporting purposes. However, for conditions of public health importance such as SARS-CoV disease, disease-control activities should be initiated as soon as possible after a potential case is recognized, even though information sufficient to determine case status may be lacking. Therefore, the revised case definition distinguishes 1) cases of SARS-CoV disease that are classified as confirmed (i.e., clinically compatible illness with laboratory confirmation) or probable (i.e., severe respiratory illness with epidemiologic linkage to a laboratory-confirmed case), from 2) other SARS reports under investigation (RUI), which include patients whose illnesses are less severe or whose exposures to SARS-CoV are not definitive.

Detailed descriptions of revised criteria and classifications for cases of SARS-CoV disease and SARS RUI criteria are provided in Appendix B1. SARS case definitions may be modified as the understanding of the clinical, virologic, and transmission characteristics of SARS-CoV evolves. Up-to-date versions of SARS case definitions will be available on CDC's SARS website: http://www.cdc.gov/sars.

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IV. Plan for Surveillance of Cases of SARS-CoV Disease

A. Surveillance In The Absence Of Person-To-Person Transmission Of SARS-Cov In The World

Objective: Establish surveillance aimed at early detection of cases and clusters of severe unexplained respiratory infections (i.e., pneumonia) that might signal the re-emergence of SARS-CoV.

Continued vigilance is critical to ensure the rapid recognition and appropriate management of SARS patients if person-to-person SARS-CoV transmission recurs. In the absence of known areas with SARS-CoV transmission, the likelihood that a patient with fever or respiratory symptoms has SARS-CoV disease will be exceedingly low unless the patient has both typical clinical findings and some accompanying epidemiologic evidence that raises the suspicion of exposure to SARS-CoV. Therefore, U.S. surveillance efforts should focus on specific clinical syndromes (i.e., cases of pneumonia requiring hospitalization) in groups likely to be first affected by the re-emergence of SARS-CoV (e.g., travelers to areas previously affected with SARS-CoV; healthcare workers).

The 2003 SARS-CoV outbreak likely originated in mainland China, and neighboring areas such as Taiwan and Hong Kong are thought to be at higher risk due to the large volume of travelers from mainland China. Although less likely, SARS-CoV may also reappear from other previously affected areas. Therefore, clinicians should obtain a complete travel history. If clinicians have concerns about the possibility of SARS-CoV disease in a patient with a history of travel to other previously affected areas (e.g., while traveling abroad, had close contact with another person with pneumonia of unknown etiology or spent time in a hospital in which patients with acute respiratory disease were treated), they should contact the health department.

In the absence of SARS-CoV transmission in the world, the screening of persons requiring hospitalization for radiographically confirmed pneumonia for risk factors suggesting SARS-CoV exposure should be limited to adults, unless there are special circumstances that make the clinician and public health personnel consider a child to be of potentially high risk for having SARS-CoV disease. During the 2003 global outbreaks, infants and children accounted for only a small percentage of SARS cases and had a much milder disease and better outcome than adults. Although information on SARS-CoV disease in pediatric patients is limited, the role of children in transmission is likely much less significant than the role of adults.

Activities: Healthcare providers

- Consider SARS-CoV disease in patients who require hospitalization for radiographically confirmed pneumonia (or acute respiratory distress syndrome) of unknown etiology *and* who have one of the following risk factors in the 10 days before illness onset:
  - Travel to mainland China, Hong Kong or Taiwan, or close contact[1] with an ill person with a history of recent travel to one of these areas, *or*

[1] Close contact: A person who has cared for or lived with a person with SARS-CoV disease or had a high likelihood of direct contact with respiratory secretions and/or body fluids of a person with SARS-CoV disease. Examples of close contact include kissing or hugging, sharing eating or drinking utensils, talking within 3 feet, and direct touching. Close contact does not include activities such as walking by a person or briefly sitting across a waiting room or office.

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  - Employment in an occupation associated with a risk for SARS-CoV exposure (e.g., healthcare worker with direct patient contact; worker in a laboratory that contains live SARS-CoV [2]), *or*
  - Part of a cluster of cases of atypical pneumonia without an alternative diagnosis
- Use SARS-CoV testing judiciously and in consultation with local or state public health officials, given that: 1) the positive predictive value of a positive laboratory test in the absence of SARS-CoV transmission is extremely low, and 2) false-positive tests may generate tremendous anxiety and concern and expend valuable public health resources.
- Be alert for clusters of unexplained pneumonia among two or more healthcare workers who work in the same facility.
- Report to the state or local health department:
  - All persons requiring hospitalization for radiographically confirmed pneumonia who report at least one of the three risk factors listed above
  - Any clusters of unexplained pneumonia requiring hospitalization, especially among healthcare workers
  - Any positive SARS-CoV test result (requires immediate notification of the health department by telephone).

Activities: State and local health departments

- Disseminate surveillance guidelines regarding timely recognition, evaluation, and reporting of possible SARS-CoV cases to healthcare providers, particularly triage, emergency department, and hospital-based providers.
- Establish a surveillance system to receive reports of:
  - Persons who require hospitalization for radiographically confirmed pneumonia and who are found to be at greater risk for SARS-CoV disease based on the provider-based screening described above,
  - Clusters of persons with unexplained pneumonia, and
  - Positive SARS-CoV test results.
- Review and obtain information needed to assess reported pneumonia cases and clusters for the likelihood of SARS-CoV disease. Considerations that increase the likelihood of SARS-CoV disease include:
  - Illness onset dates grouped within a 10-day period
  - Ill travelers who had contact with healthcare settings or persons hospitalized for unexplained respiratory infection while abroad and within 10 days of illness onset
  - Clusters of pneumonia among any group of persons for whom alternative diagnoses have been reliably excluded or clusters in which one case is linked to travel to a previously affected area or to an ill healthcare worker
- Review reports of persons who are hospitalized for pneumonia and are at increased risk for SARS-CoV disease to ensure that:
  - Adequate testing is done to rule out other infectious causes of pneumonia
  - SARS-CoV testing is ordered only when appropriate (see *Clinical Guidance on the Identification and Evaluation of Possible SARS-CoV Disease among Persons Presenting with Community-Acquired Illness*, http://www.cdc.gov/ncidod/sars/clinicalguidance.htm).
- Consult CDC as needed about cases or clusters of special concern.
- Report to CDC any positive SARS-CoV test results.

[2] Persons who work in laboratories that contain live SARS-CoV should report any febrile and/or respiratory illnesses to the supervisor. They should be evaluated for possible exposures, and their clinical features and course of illness should be closely monitored. If laboratory workers with fever and/or respiratory illness are found to have an exposure to SARS-CoV, they should be managed according to the recommendations in Supplement F, Appendix F6.

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- Inform CDC of other cases or clusters of pneumonia that are of particular concern by calling 770-488-7100.

Activities: CDC

- Provide guidance to health departments, hospitals, and healthcare providers on SARS surveillance.
- Assist state and local health departments in the development of an electronic reporting system and related forms to facilitate uniform reporting.
- Assist states, as requested, in investigations of cases and clusters of persons with possible SARS-CoV disease.
- Collect and review reports of pneumonia requiring hospitalization in travelers and clusters of healthcare workers associated with a high index of suspicion for SARS-CoV disease, as specified in the preceding section.

B. Surveillance in the Presence of Person-to-PersonTransmission of SARS-CoV in the World

Objective: Establish surveillance to promptly identify and report all new U.S. cases of SARS-CoV disease to facilitate outbreak management and control.

If person-to-person SARS-CoV transmission is documented in the United States or abroad, the likelihood that a person with fever or lower respiratory symptoms might be infected with SARS-CoV will increase but will remain low unless the person has a history of recent exposure to a known case of SARS-CoV disease or to a setting in which SARS-CoV transmission is occurring. Surveillance efforts should be modified to incorporate available risk factor information, particularly regarding geographic transmission patterns. The scope of surveillance activities in specific communities may differ substantially depending on the extent of disease in both the community and local healthcare facilities or institutions. Ongoing analysis of surveillance data and other information will be critical to inform decisions about the need to implement or discontinue various elements of enhanced surveillance.

Surveillance activities should also be enhanced or accelerated as needed by a particular community or institution. *Basic surveillance activities* should be initiated in areas with no or little SARS-CoV transmission and continued in areas with increased transmission. *Enhanced surveillance activities* should be considered if a community or facility experiences a significant increase in number of cases, if epidemiologic links between cases cannot be readily established, or if changing transmission patterns are identified. Enhanced surveillance activities should focus both on increasing the sensitivity of case detection through use of less specific clinical criteria when screening cases (see note below) and on evaluation of suspicious illnesses regardless of identification of an epidemiologic link.

NOTE: For persons with a high risk of exposure to SARS-CoV (e.g., persons previously identified through contact tracing or self-identified as close contacts of a laboratory-confirmed case of SARS-CoV disease; persons who are epidemiologically linked to a laboratory-confirmed case of SARS-CoV disease), respiratory symptoms used to screen patients should be expanded to include upper respiratory symptoms such as sore throat and rhinorrhea, in addition to any other early non-respiratory symptoms of SARS-CoV disease such as chills, rigors, myalgia, headache, or diarrhea. The more common early symptoms include chills, rigors, myalgia, and headache; in some patients, myalgia and headache may precede the onset of fever by 12-24 hours. However, diarrhea, sore throat, and rhinorrhea may also be early symptoms of SARS-CoV disease.

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Activities: Healthcare providers

Community-based surveillance

Basic Activities

- Continue case detection and reporting as detailed above (absence of SARS-CoV transmission in the world) to identify potential SARS cases with no known epidemiologic links.
- Consider screening all patients presenting to outpatient clinics with a fever or lower respiratory symptoms for SARS risk factors. SARS risk factors include:
  - Travel within 10 days of illness onset to a foreign or domestic location with documented or suspected transmission of SARS-CoV (see http://www.cdc.gov/ncidod/sars/travel.htm), *or*
  - Close contact within 10 days of illness onset with a person with known or possible SARS-CoV disease.
- If a patient with a fever or evidence of respiratory illness has a SARS risk factor, notify the local health department, and evaluate and isolate the patient according to the algorithm in *Clinical Guidance on the Identification and Evaluation of Possible SARS-CoV Disease among Persons Presenting with Community-Acquired Illness* (http://www.cdc.gov/ncidod/sars/clinicalguidance.htm).

Enhanced Activities

- If epidemiologic links between some local SARS cases cannot be readily established (i.e., the source of infection is unclear), consider SARS-CoV disease in the differential diagnosis and management of all patients with fever or lower respiratory symptoms, regardless of whether the patient has SARS risk factors (see Supplements C and I for guidance on triage and infection control).

Hospital-based surveillance

This section includes recommendations for SARS surveillance in healthcare facilities. For detailed recommendations on screening and triage, access controls, and infection control measures in healthcare settings, see Supplements C and I.

Healthcare facility with no cases of SARS

Basic Activities

- Continue to implement case detection and reporting efforts as detailed above (absence of SARS-C0V transmission in the world) to identify potential SARS patients for whom an epidemiologic link is unknown.
- Screen all patients presenting to emergency rooms or hospital clinics with a fever or respiratory symptoms for SARS risk factors.
- Infection control personnel, occupational health officials, and providers should be alert for clusters of pneumonia requiring hospitalization among healthcare workers. Any clusters with illness with onset within the same 10-day period should be reported to local or state health officials.
- Report any potential SARS cases to the state or local health department according to their instructions.

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Enhanced Activities

- If SARS-CoV transmission is occurring in the surrounding community, screen all visitors upon entry to the facility for fever or lower respiratory symptoms. Screen symptomatic persons for SARS risk factors. Patients with risk factors should be isolated and evaluated according to the algorithm in *Clinical Guidance on the Identification and Evaluation of Possible SARS-CoV Disease among Persons Presenting with Community-Acquired Illness* (http://www.cdc.gov/ncidod/sars/clinicalguidance.htm).

Healthcare facility with a few SARS cases, but no evidence of nosocomial transmission

Basic Activities

- Continue all recommended surveillance plans outlined in the previous section. Implement daily monitoring of all healthcare workers caring for SARS patients. If a healthcare worker caring for SARS patients develops fever or lower respiratory symptoms or two or more early symptoms of SARS-CoV disease (chills, rigors, myalgia, headache, diarrhea, sore throat, rhinorrhea), notify the local health department, begin SARS isolation precautions, and initiate a clinical evaluation as outlined in the algorithm in *Clinical Guidance on the Identification and Evaluation of Possible SARS-CoV Disease among Persons Presenting with Community-Acquired Illness* (http://www.cdc.gov/ncidod/sars/clinicalguidance.htm). The more common early symptoms of SARS-CoV disease include chills, rigors, myalgia, and headache; in some patients, myalgia and headache may precede the onset of fever by 12-24 hours. However, diarrhea, sore throat, and rhinorrhea may also be early symptoms of SARS-CoV disease.

Enhanced Activities

- Screen all patients, visitors, and employees upon entry to the facility for fever or lower respiratory symptoms. Screen symptomatic persons for SARS risk factors. Patients with risk factors should be isolated and evaluated for both alternative respiratory illnesses and SARS-CoV disease (http://www.cdc.gov/ncidod/sars/clinicalguidance.htm).

Healthcare facility with a larger number of SARS cases OR nosocomial transmission with all cases linked to a clearly identified source

Activities

- Continue all recommended surveillance plans outlined in the previous section.
- Monitor *all* healthcare workers daily for fever or lower respiratory symptoms. If a healthcare worker has fever or lower respiratory symptoms, begin SARS isolation precautions (Supplement I), obtain a chest x-ray, and initiate a preliminary clinical evaluation (http://www.cdc.gov/ncidod/sars/clinicalguidance.htm). Continue to screen all healthcare workers caring for SARS patients using the expanded clinical criteria. In addition to fever or lower respiratory symptoms, screen for the presence of any of the following: chills, rigors, myalgia, headache, diarrhea, sore throat, rhinorrhea.
- Begin inpatient surveillance. Monitor patients daily for new or worsening respiratory symptoms. If found, investigate the patient for exposure to known or suspected SARS patients. If there is evidence of exposure, isolate the patient and test for alternative respiratory illnesses and SARS-CoV disease (http://www.cdc.gov/ncidod/sars/clinicalguidance.htm).

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Healthcare facility with cases attributed to nosocomial transmission with no clearly identified source

Activities

- Continue all recommended surveillance plans outlined in the previous section.
- Expand inpatient surveillance. Test any patient with new or worsening fever or respiratory symptoms for SARS-CoV regardless of whether the patient has an epidemiologic link to a SARS case (http://www.cdc.gov/ncidod/sars/clinicalguidance.htm).
- Consider surveillance for illness and absenteeism among healthcare workers.

Activities: State and local health departments

- Continue activities outlined above, as appropriate.
- Identify, evaluate, and monitor exposed contacts of SARS cases to identify previously unrecognized or secondary cases, as outlined below.
- Disseminate modified surveillance and patient screening guidelines to providers through the state/local Health Alert Network.
- Facilitate reporting from hospitals. If necessary, consider placing surveillance staff in hospitals with multiple SARS admissions.
- Review reports daily of persons reported from hospitals/providers to: 1) evaluate the level of risk for SARS, 2) ensure adequate testing to rule out SARS-CoV, 3) identify new clusters that might require special attention, 4) identify contacts and ensure that they are evaluated and monitored (as outlined below), and 5) monitor trends.
- Once person-to-person SARS-CoV transmission is documented anywhere in the world, report to CDC any person who meets the case definition for a probable case of SARS-CoV disease or a confirmed case of SARS-CoV disease, as defined by CSTE (see Appendix B1).
- Immediately report to CDC any positive SARS-CoV test results.
- Following discussions between CDC and CSTE, CDC may also require reporting of other potential SARS-CoV cases (e.g., SARS reports under investigation [SARS RUIs]) as needed to meet national surveillance objectives. Updated national reporting requirements will be circulated to state and local health departments and posted on CDC's SARS website (www.cdc.gov/sars) as indicated.

Activities: CDC

- Continue activities outlined above, as appropriate.
- Ensure that all states have systems to identify and monitor potential SARS cases and contacts.
- Ensure that states and hospitals have adequate guidance to implement effective surveillance and containment measures.
- As SARS activity evolves, work with CSTE to determine what surveillance information and related reporting mechanisms are needed to meet national surveillance objectives.
- Monitor the level of activity of SARS-CoV disease nationwide to:
  - Monitor the effectiveness of U.S. efforts to diagnose and contain SARS-CoV
  - Provide timely feedback to states in the form of data and other information
  - Mobilize additional resources, and arrange surge capacity as needed
  - Report activity to WHO to assist with global surveillance and control
- Oversee surveillance at ports of entry to aid in the identification of possible imported SARS-related illnesses, as outlined in Supplement E.
- Facilitate coordinated surveillance and related activities in settings that may not be under state/local jurisdiction (e.g., military bases).
- Provide guidance regarding possible laboratory-acquired SARS-CoV infections, as outlined in Supplement F.

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V. Reporting of Cases of SARS-CoV Disease

A. Reporting in the Absence of Person-to-Person Transmission of SARS-CoV in the World

Objective: Ensure adequate reporting of cases of severe respiratory illness (pneumonia requiring hospitalization) among persons who have risk factors for potential exposure to SARS-CoV.

Activities: Healthcare providers

- Report to the state or local health department:
  - All persons requiring hospitalization for radiographically confirmed pneumonia who report at least one of the three risk factors for exposure to SARS-CoV outlined above
  - Any clusters (two or more persons) of unexplained pneumonia, especially among healthcare workers
  - Any positive SARS-CoV test result

Note: In the absence of SARS-CoV transmission worldwide, any **SARS-CoV-positive test result** should be communicated immediately by telephone to the state or local health department for confirmation and implementation of urgent and appropriate isolation precautions, contact tracing, and follow-up. See http://www.cdc.gov/ncidod/sars/absenceofsars.htm for details.

Activities: State and local health departments

- Report any SARS-CoV-positive test result to CDC.
- Inform CDC of cases or clusters of pneumonia that are of particular concern by calling 770-488-7100.

B. Reporting in the Presence of Person-to-Person Transmission of SARS-CoV in the World

Objective: Ensure adequate reporting of all new potential and confirmed U.S. cases of SARS-CoV disease.

Activities: Healthcare providers

- Continue to report to the state or local health department:
  - Persons requiring hospitalization for radiographically confirmed pneumonia who report at least one of the three risk factors for exposure to SARS-CoV outlined above and for whom an alternate diagnosis is not made
  - Any clusters of unexplained pneumonia
  - Any positive SARS-CoV test result
- Also report to state or local health departments:
  - Any patient with fever or lower respiratory illness who has a SARS risk factor (travel within 10 days of illness onset to a foreign or domestic location with ongoing transmission of SARS-CoV infection [http://www.cdc.gov/sars/travel.htm] or close contact within 10 days of illness onset with a person with known or suspected SARS-CoV disease).

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Activities: State and local health departments

- Report to CDC any person who meets the case definition for a probable case of SARS-CoV disease or a confirmed case of SARS-CoV disease, as defined by CSTE (see Appendix B1).
- Immediately report to CDC any positive SARS-CoV test result.
- Following discussions between CDC and CSTE, CDC may also require reporting of other potential SARS-CoV cases (e.g., SARS RUIs) as needed to meet national surveillance objectives. Updated national reporting requirements will be circulated to state and local health departments and posted on the CDC's SARS website (www.cdc.gov/sars) as indicated.

Activities: CDC

- CDC will report confirmed or potential cases of SARS-CoV disease to WHO, as required per international reporting guidelines.

VI. Plan for Surveillance of Contacts of SARS Cases

Surveillance of contacts of SARS cases is essential to control efforts. Rapid identification, evaluation, and monitoring of exposed asymptomatic contacts and prompt isolation of those who are found to be clinically ill can prevent further transmission of disease.

Infectiousness in patients with SARS-CoV disease appears to begin with the onset of clinical illness. Although the exact duration of infectiousness is not known, it is recommended that patients with SARS-CoV disease avoid contact with other persons for up to 10 days after resolution of fever and improving or absent respiratory symptoms. Contact tracing is the systematic identification of persons who may have been exposed to patients with suspected or confirmed SARS-CoV disease during the infectious period. In some instances, public health officials should also consider identifying persons who had contact with a SARS patient *before* the patient's onset of illness – if there is a chance that the contacts might have been exposed to the same source of infection as the case. Such situations would include those in which the SARS patient's source of infection is unclear or not previously recognized (e.g., an index case among a group of tourists).

Objective 1: Prepare to conduct surveillance of contacts by ensuring the availability of personnel and other resources**.**

Activities: State and local health departments

- Designate one person to coordinate activities related to contact tracing, interviewing, evaluation, and monitoring.
- Identify additional personnel to manage contact tracing and monitoring in different regions of the state. Personnel can be provided from state or other resources as needed. Ideally, select staff with field experience involving contact tracing (e.g., from STD, TB, or HIV control programs).
- As needed, modify and adopt sample forms provided by CDC (Appendix B3).

Additional recommendations related to preparedness planning for surveillance and management of SARS contacts, including community containment measures such as non-hospital isolation and quarantine, are provided in Supplement D.

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Objective 2*:* Identify all contacts of all SARS cases.

Activities: State and local health departments

- Identify contacts of known or possible cases of SARS-CoV disease. Obtain information from the case-patient, next of kin, workplace representative, or others with appropriate knowledge of the case-patient's recent whereabouts and activities.
- Trace each contact whose name, address, and/or telephone number is provided.
- When contact information is unknown or incomplete, use a variety of resources (e.g., work and school contact numbers, telephone directories, voting lists, neighborhood interviews, site visits, visits to "hangouts") to trace contacts. If contacts cannot be found through these mechanisms, other methods for notifying potential contacts (e.g., media announcements) may have to be considered.
- Locate and interview each contact to: 1) confirm exposure to the SARS case, 2) document the presence or absence of fever or lower respiratory symptoms,[3] and 3) identify additional contacts.
- For persons who are free of symptoms at the time of interview, initiate plans for ongoing symptom monitoring or other restrictions implemented by public health officials (see Supplement D) for 10 days after the last contact with the SARS case.

Objective 3: Prioritize contacts on the basis of estimated risk of exposure if necessary.

Contact tracing should include detailed interviews so that contacts can be prioritized on the basis of their estimated risk of SARS-CoV exposure. This process allows identification of the contacts at greatest risk and more efficient use of the resources needed for follow-up and monitoring. In some instances, however, resource limitations (e.g., limited number of skilled interviewers) or large numbers of potential contacts may preclude focused contact tracing and require follow-up and monitoring of a large number of contacts with less definite risks.

Activities: State and local health departments

- Consider establishing priorities among contacts based on the following factors:
  - Probability of SARS-CoV disease in the index case (e.g., contacts of confirmed and probable SARS-CoV cases would be highest priority)
  - Duration and spatial proximity (e.g., < 3 feet) of the contact's exposure to the case
  - History of exposure(s) known or suspected to be at higher risk for transmission (e.g., SARS patient care; participation in an aerosol-generating procedure; intimate contact)
  - Documented secondary
- After a review of contact priority lists and available resources, state authorities may decide to adopt different levels of contact follow-up and monitoring activities for different categories of contacts. For detailed recommendations for management of contacts, see Supplement D.

[3] For persons with a high risk of exposure to SARS-CoV (e.g., persons previously identified through contact tracing or self-identified as close contacts of a laboratory-confirmed case of SARS-CoV disease; persons who are epidemiologically linked to a laboratory-confirmed case of SARS-CoV disease), clinical criteria should be expanded to include, in addition to either fever or lower respiratory symptoms, the presence of any of the early symptoms of SARS-CoV disease (i.e., chills, rigors, myalgia, headache, diarrhea, sore throat, rhinorrhea) as a potential trigger to initiate a clinical evaluation for SARS-CoV disease.

Supplement B: SARS Surveillance
(continued from previous page)

VII. Information Management

Rapid and timely reporting of cases of SARS-CoV disease and dissemination of surveillance information are key to the management of a SARS outbreak. As part of the SARS Incident and Command Management System (see Supplement A), CDC has developed a web-based reporting system for SARS RUI and SARS-CoV disease cases. This system allows states to report data on SARS RUIs and cases via one of two secure mechanisms based on the capacities at the state health departments: 1) direct entry into a web-based interface, available to all states with minimal technological requirements, or 2) upload of data from electronic databases maintained at the state into the web-based interface. Data that are reported to CDC will be exported to state health departments daily as an analyzable data set in a pre-defined format. Results of laboratory testing at CDC will be integrated into the data transmitted to the states. For more information on the web-based reporting system, contact the CDC Secure Data Network staff via telephone (800-532-9929) or email (cdcsdn@cdc.gov).

SARS-CoV disease has recently been designated a nationally notifiable disease to be reported to the Nationally Notifiable Diseases Surveillance System (NNDSS). CDC is encouraging states to use either direct entry into or data upload to the SARS web information system for SARS RUI and SARS-CoV disease cases. When clinical, epidemiologic, and laboratory data reported from states to the CDC SARS web-based reporting system meet the criteria for a reportable SARS-CoV disease case, a record will automatically be added to NNDSS and states will be notified of the transfer of data to NNDSS.

Contact tracing and monitoring will require substantial data management resources. The information technology needs for timely surveillance and management of contacts of SARS cases are currently under discussion among CDC and partners in state and local health departments, and development of a contact tracing database is ongoing.

Supplement B: SARS Surveillance
(continued from previous page)

Appendix B1
Revised CSTE SARS Surveillance Case Definition

December 2003

Clinical Criteria

Early illness
- Presence of two or more of the following features: fever (might be subjective), chills, rigors, myalgia, headache, diarrhea, sore throat, rhinorrhea

Mild-to-moderate respiratory illness
- Temperature of >100.4º F (>38º C)[1] *and*
- One or more clinical findings of lower respiratory illness (e.g., cough, shortness of breath, difficulty breathing)

Severe respiratory illness
- Meets clinical criteria of mild-to-moderate respiratory illness, *and*
- One or more of the following findings:
  - Radiographic evidence of pneumonia, *or*
  - Acute respiratory distress syndrome, *or*
  - Autopsy findings consistent with pneumonia or acute respiratory distress syndrome without an identifiable cause

Epidemiologic Criteria

Possible exposure to SARS-associated coronavirus (SARS-CoV)
One or more of the following exposures in the 10 days before onset of symptoms:
- Travel to a foreign or domestic location with documented or suspected recent transmission of SARS-CoV[2] *or*
- Close contact[3] with a person with mild-to-moderate or severe respiratory illness and with history of travel in the 10 days before onset of symptoms to a foreign or domestic location with documented or suspected recent transmission of SARS-CoV[2]

Likely exposure to SARS-CoV
One or more of the following exposures in the 10 days before onset of symptoms:
- Close contact[3] with a confirmed case of SARS-CoV disease *or*
- Close contact[3] with a person with mild-moderate or severe respiratory illness for whom a chain of transmission can be linked to a confirmed case of SARS-CoV disease in the 10 days before onset of symptoms

Laboratory Criteria

Tests to detect SARS-CoV are being refined, and their performance characteristics assessed; therefore, criteria for laboratory diagnosis of SARS-CoV are changing[4]. The following are the general criteria for laboratory confirmation of SARS-CoV:
- Detection of serum antibody to SARS-CoV by a test validated by CDC (e.g., enzyme immunoassay [EIA]), *or*
- Isolation in cell culture of SARS-CoV from a clinical specimen, *or*
- Detection of SARS-CoV RNA by a reverse-transcription-polymerase chain reaction (RT-PCR) test validated by CDC and with subsequent confirmation in a reference laboratory (e.g., CDC)

Supplement B: SARS Surveillance
(continued from previous page)

Information regarding the current criteria for laboratory diagnosis of SARS-CoV is available at http://www.cdc.gov/ncidod/sars/labdiagnosis.htm.

Exclusion Criteria

A person may be excluded as a SARS report under investigation (SARS RUI), including as a CDC-defined probable SARS-CoV case, if any of the following applies:

- An alternative diagnosis can explain the illness fully[5]
- Antibody to SARS-CoV is undetectable in a serum specimen obtained >28 days after onset of illness[6]
- The case was reported on the basis of contact with a person who was excluded subsequently as a case of SARS-CoV disease; then the reported case also is excluded, provided other epidemiologic or laboratory criteria are not present

Case Classification

SARS RUI

Reports in persons from areas where SARS is not known to be active:

- SARS RUI-1: Patients with severe illness compatible with SARS in groups likely to be first affected by SARS-CoV[7] if SARS-CoV is introduced from a person without clear epidemiologic links to known cases of SARS-CoV disease or places with known ongoing transmission of SARS-CoV

Reports in persons from areas where SARS activity is occurring:

- SARS RUI-2: Patients who meet the current clinical criteria for mild-to-moderate illness and the epidemiologic criteria for possible exposure (spring 2003 CDC definition for suspect cases[8])
- SARS RUI-3: Patients who meet the current clinical criteria for severe illness and the epidemiologic criteria for possible exposure (spring 2003 CDC definition for probable cases[8])
- SARS RUI-4: Patients who meet the clinical criteria for early or mild-moderate illness and the epidemiologic criteria for likely exposure to SARS-CoV

SARS-CoV disease classification

- Probable case of SARS-CoV disease: in a person who meets the clinical criteria for severe respiratory illness and the epidemiologic criteria for likely exposure to SARS-CoV
- Confirmed case of SARS-CoV disease: in a person who has a clinically compatible illness (i.e., early, mild-to-moderate, or severe) that is laboratory confirmed

---

[1]A measured documented temperature of >100.4º F (>38º C) is expected. However, clinical judgment may allow a small proportion of patients without a documented fever to meet this criterion. Factors that might be considered include patient's self-report of fever, use of antipyretics, presence of immunocompromising conditions or therapies, lack of access to health care, or inability to obtain a measured temperature. Initial case classification based on reported information might change, and reclassification might be required.

[2]Types of locations specified will vary (e.g., country, airport, city, building, floor of building). The last date a location may be a criterion for exposure for illness onset is 10 days (one incubation period) after removal of that location from CDC travel alert status. The patient's travel should have occurred on or before the last date the travel alert was in place. Transit through a foreign airport meets the epidemiologic criteria for possible exposure in a location for which a CDC travel advisory is in effect. Information regarding CDC travel alerts and advisories and assistance in determining appropriate dates are available at http://www.cdc.gov/ncidod/sars/travel.htm.

Supplement B: SARS Surveillance
(continued from previous page)

[3]Close contact is defined as having cared for or lived with a person with SARS or having a high likelihood of direct contact with respiratory secretions and/or body fluids of a person with SARS (during encounters with the patient or through contact with materials contaminated by the patient) either during the period the person was clinically ill or within 10 days of resolution of symptoms. Examples of close contact include kissing or embracing, sharing eating or drinking utensils, close conversation (<3 feet), physical examination, and any other direct physical contact between persons. Close contact does not include activities such as walking by a person or sitting across a waiting room or office for a brief time.

[4]The identification of the etiologic agent of SARS (SARS-CoV) led to the rapid development of EIAs and immunofluorescence assays (IFAs) for serologic diagnosis and RT-PCR assays for detection of SARS-CoV RNA in clinical samples. These assays can be very sensitive and specific for detecting antibody and RNA, respectively, in the later stages of SARS-CoV disease. However, both are less sensitive for detecting infection early in illness. The majority of patients in the early stages of SARS-CoV disease have a low titer of virus in respiratory and other secretions and require time to mount an antibody response. SARS-CoV antibody tests might be positive as early as 8–10 days after onset of illness and often by 14 days after onset of illness, but sometimes not until 28 days after onset of illness. Information regarding the current criteria for laboratory diagnosis of SARS-CoV is available at http://www.cdc.gov/ncidod/sars/labdiagnosis.htm.

[5]Factors that may be considered in assigning alternate diagnoses include the strength of the epidemiologic exposure criteria for SARS-CoV disease, the specificity of the alternate diagnostic test, and the compatibility of the clinical presentation and course of illness for the alternative diagnosis.

[6]Current data indicate that >95% of patients with SARS-CoV disease mount an antibody response to SARS-CoV. However, health officials may choose not to exclude a case based on lack of a serologic response if reasonable concern exists that an antibody response could not be mounted.

[7]Consensus guidance between CDC and CSTE on which groups are most likely to be first affected by SARS-CoV if it re-emerges is in development. In principle, SARS-CoV disease should be considered at a minimum in the differential diagnosis for persons requiring hospitalization for radiographically confirmed pneumonia or acute respiratory distress syndrome without identifiable etiology and who have one of the following risk factors in the 10 days before the onset of illness:

- Travel to mainland China, Hong Kong, or Taiwan, or close contact with an ill person with a history of recent travel to one of these areas, *or*
- Employment in an occupation associated with a risk for SARS-CoV exposure (e.g., healthcare worker with direct patient contact or worker in a laboratory that contains live SARS-CoV), *or*
- Part of a cluster of cases of atypical pneumonia without an alternative diagnosis

Guidelines for the identification, evaluation, and management of these persons are available at http://www.cdc.gov/ncidod/sars/absenceofsars.htm.

[8]During the 2003 SARS epidemic, CDC case definitions were the following:

Suspect case
- Meets the clinical criteria for mild-to-moderate respiratory illness and the epidemiologic criteria for possible exposure to SARS-CoV but does not meet any of the laboratory criteria and exclusion criteria *or*
- Unexplained acute respiratory illness resulting in death in a person on whom an autopsy was not performed and who meets the epidemiologic criteria for possible exposure to SARS-CoV but does not meet any of the laboratory criteria and exclusion criteria

Probable case
Meets the clinical criteria for severe respiratory illness and the epidemiologic criteria for possible exposure to SARS-CoV but does not meet any of the laboratory criteria and exclusion criteria

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Appendix B2

SARS Domestic Case Reporting Form

Form Approved
OMB No. 0920-0008

Person Details

1. IDs	
CDC ID #: *CDC ID WILL BE AUTOMATICALLY GENERATED*	Date reported to CDC: __ __ / __ __ / __ __ __ __ (m m d d y y y y)
State ID #: _____	Jurisdiction:
Date reported to state or local health department: __ __ / __ __ / __ __ __ __ (m m d d y y y y)	
2. Submitted By	
Last Name:	First Name:
State:	Affiliation:
Phone:	E-mail:
3. Patient Information	
City of Residence:	
County of Residence:	
State of Residence:	
Age at onset: _____ ☐ Years ☐ Months	Sex: ☐ Male ☐ Female
Ethnicity: ☐ Non Hispanic ☐ Hispanic	Race *(Mark one or more)* ☐ American Indian/Alaska Native ☐ Asian ☐ Black ☐ Native Hawaiian/Other Pacific Islander ☐ White ☐ Unknown
Nationality/Citizenship:	
Residency: ☐ US Residency ☐ Non-US Residency	
4. Optional Patient Information	
Last Name: _____	First Name: _____

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Clinical Information

5. Signs and Symptoms

Date of symptom onset: __ __ / __ __ / __ __ __ __
m m d d y y y y

Did the person have a fever (subjective or objective)?
☐ Yes
☐ No
☐ Unknown

If yes:

Date of fever onset: __ __ / __ __ / __ __ __ __
m m d d y y y y

Was temperature > 38° C (100.4° F)?
☐ Yes
☐ No
☐ Unknown

Did the patient have any lower respiratory symptoms (e.g. cough, shortness of breath, difficulty breathing)?
☐ Yes
☐ No
☐ Unknown

Was a chest X-ray or CAT scan performed?
☐ Yes
☐ No
☐ Unknown

If yes:

Did the patient have radiographic evidence of pneumonia or respiratory distress syndrome (RDS)?
☐ Yes
☐ No
☐ Unknown

6. Clinical Status

Date of the first health care evaluation for this illness: __ __ / __ __ / __ __ __ __
m m d d y y y y

Was patient hospitalized for > 24 hours during course?
☐ Yes
☐ No
☐ Unknown

If yes:

Name of Hospital: _____ City: _____ State: _____

Date of Hospitalization: __ __ / __ __ / __ __ __ __
m m d d y y y y

Date of Discharge: __ __ / __ __ / __ __ __ __
m m d d y y y y

Was patient ever admitted to the intensive care unit (ICU)?
☐ Yes
☐ No
☐ Unknown

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Was patient ever placed on mechanical ventilation?	☐ Yes ☐ No ☐ Unknown
Did patient die as a result of his/her illness?	☐ Yes ☐ No ☐ Unknown
If yes: Date of Death: __ __ / __ __ / __ __ __ __ m m d d y y y y	
Was an autopsy performed?	☐ Yes ☐ No ☐ Unknown
Was pathology consistent with pneumonia or RDS?	☐ Yes ☐ No ☐ Unknown

Epidemiologic Risk Factors

7. Occupation	
Is the individual a healthcare worker?* ** A person who has close contact to patients, patient care areas (e.g., patient room) or patient care items (e.g. linens, patient specimens).*	☐ Yes ☐ No ☐ Unknown
If yes: Specify healthcare worker type:	☐ Physician ☐ Nurse/PA ☐ Lab ☐ Other Specify: _____
Does patient have DIRECT patient care responsibilities?	☐ Yes ☐ No ☐ Unknown
If not a healthcare worker, please list occupation: _____	

8. Contact and Travel	
In the 10 days prior to symptom onset, did the patient have the following?	
A. Close contact in the 10 days prior to symptom onset with a confirmed SARS-CoV case or a probable SARS-CoV case? ***** **** SEE APPENDIX B1 FOR CLASSIFICATION DEFINITIONS***	☐ Yes If yes, go to section 9, then return ☐ No ☐ Unknown
B. Close contact with a person considered an RUI-2 or RUI-3? ***** **** SEE APPENDIX B1 FOR CLASSIFICATION DEFINITIONS***	☐ Yes **If yes, go to section 9, then return** ☐ No ☐ Unknown

(continued from previous page)

C. Travel to **foreign** or **domestic** area with documented or suspected recent local transmission of SARS cases? *(See list of areas at end of document)*

☐ Yes Enter Destination Below
☐ No
☐ Unknown

If yes to C, list travel destination(s) *(See list of areas at end of document)*

Destination: ______________________________

Date of Arrival: __ __ / __ __ / __ __ __ __ (m m d d y y y y)
Date of Departure: __ __ / __ __ / __ __ __ __ (m m d d y y y y)

Destination: ______________________________

Date of Arrival: __ __ / __ __ / __ __ __ __ (m m d d y y y y)
Date of Departure: __ __ / __ __ / __ __ __ __ (m m d d y y y y)

Destination: ______________________________

Date of Arrival: __ __ / __ __ / __ __ __ __ (m m d d y y y y)
Date of Departure: __ __ / __ __ / __ __ __ __ (m m d d y y y y)

Destination: ______________________________

Date of Arrival: __ __ / __ __ / __ __ __ __ (m m d d y y y y)
Date of Departure: __ __ / __ __ / __ __ __ __ (m m d d y y y y)

Contact History

9. Information on Ill Contacts

Add Contact information for ill contacts identified by question 8A or 8B above. These ill contacts should have been identified previously and have been given either a CDC or STATE ID. If an ID has not been given, enter contact name, but update when ID number is available.

Contact Information (1)

Contact CDC ID: ____________________ **OR** Contact STATE ID: ________________________

OR *(only if ID unavailable)* Name of Contact (first, middle initial, last):____

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Classification of Contact **(SEE APPENDIX B1):**	Nature of contact:	Contact Start:
□ RUI–2 □ RUI–3 □ Probable SARS CoV case □ Confirmed SARS CoV case	□ Same household □ Coworker □ Healthcare environment □ Other _____	__ __ / __ __ / __ __ __ __ m m d d y y y y Contact End: __ __ / __ __ / __ __ __ __ m m d d y y y y

Did the **ill contact** recently travel to an area with SARS transmission?
(see list of areas at end of document)

□ Yes
□ No
□ Unknown

If Yes, where?
_____

Contact Information (2)

Contact CDC ID: _____ **OR** Contact STATE ID: _____

OR *(only if ID unavailable)* Name of Contact (first, middle initial, last):_____

Classification of Contact **(SEE APPENDIX B1):**	Nature of contact:	Contact Start:
□ RUI–2 □ RUI–3 □ Probable SARS CoV case □ Confirmed SARS CoV case	□ Same household □ Coworker □ Healthcare environment □ Other _____	__ __ / __ __ / __ __ __ __ m m d d y y y y Contact End: __ __ / __ __ / __ __ __ __ m m d d y y y y

Did the **ill contact** recently travel to an area with SARS transmission?
(see list of areas at end of document)

□ Yes
□ No
□ Unknown

If Yes, where?
_____

Contact Information (3)

Contact CDC ID: _____ **OR** Contact STATE ID: _____

OR *(only if ID unavailable)* Name of Contact (first, middle initial, last):_____

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(continued from previous page)

Classification of Contact (SEE APPENDIX B2):	Nature of contact:	Contact Start:
□ RUI-2 □ RUI-3 □ Probable SARS CoV case □ Confirmed SARS CoV case	□ Same household □ Coworker □ Healthcare environment □ Other _____	__ __ / __ __ / __ __ __ __ m m d d y y y y Contact End: __ __ / __ __ / __ __ __ __ m m d d y y y y

Did the **ill contact** recently travel to an area with SARS transmission? *(see list of areas at end of document)* *If Yes, where?* _____	□ Yes □ No □ Unknown

Travel History

10. Patient Travel Information	
If recent foreign travel, did the patient receive a **Health Alert** or other SARS educational information on arrival in the United States?	□ Yes □ No □ Unknown
Was the patient **symptomatic** during travel from a SARS affected area of within 24 hours of return to the US or local area?	□ Yes □ No □ Unknown
If yes: 1) Please provide to the CDC the name of the SARS suspect who has traveled *(enter name from section 3)*	
2) If yes, list all travel either by public conveyance (airplane, train bus) or with a tour group, 24 hours before onset of fever or symptoms and thereafter:	
List each portion or leg or the trip below:	

Trip or portion (1)			
Departure Date: __ __ / __ __ / __ __ __ __ m m d d y y y y	Departure City: _____	Arrival City: _____	Transport Type: □ Airline □ Auto □ Train □ Tour Group □ Cruise □ Other □ Bus
Transport Company:		Transport No:	
Comment:			

Trip or portion (2)			
Departure Date: __ __ / __ __ / __ __ __ __ m m d d y y y y	Departure City: _____	Arrival City: _____	Transport Type: □ Airline □ Auto □ Train □ Tour Group □ Cruise □ Other □ Bus

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Transport Company:	Transport No:		
Comment:			
Trip or portion (3)			
Departure Date: __ __ / __ __ / __ __ __ __ m m d d y y y y	Departure City: _____	Arrival City: _____	Transport Type: ☐ Airline ☐ Auto ☐ Train ☐ Tour Group ☐ Cruise ☐ Other ☐ Bus
Transport Company:	Transport No:		
Comment:			
Trip or portion (4)			
Departure Date: __ __ / __ __ / __ __ __ __ m m d d y y y y	Departure City: _____	Arrival City: _____	Transport Type: ☐ Airline ☐ Auto ☐ Train ☐ Tour Group ☐ Cruise ☐ Other ☐ Bus
Transport Company:	Transport No:		
Comment:			

(This page may be duplicated if needed)

Classification of Patient

11. Classification of patient by state of municipality (using CSTE/CDC definitions): SEE APPENDIX B1	
Initial Classification (check one only): *Report Under Investigation (RUI)* ☐ RUI-1 ☐ RUI-2 ☐ RUI-3 ☐ RUI-4 *OR SARS disease classification* ☐ Probable SARS-CoV Case ☐ Confirmed SARS-CoV Case	Updated Classification (check one only): ☐ RUI-1 ☐ RUI-2 ☐ RUI-3 ☐ RUI-4 ☐ Probable SARS-CoV Case ☐ Confirmed SARS-CoV Case ☐ Not a case: negative serology (>28 days post onset) ☐ Not a case: alternative diagnosis accounts for illness
	Date Updated (most recent): __ __ / __ __ / __ __ __ __ m m d d y y y y

Supplement B: SARS Surveillance
(continued from previous page)

Laboratory Evaluation

12. Local SARS testing

Chose from the following specimens to enter for each test:
Whole blood, serum (acute), serum (convalescent), NP swab, NP aspirate, Broncheoalveolar lavage specimen, OP swab, urine, stool, tissue.

Specimen 1

Specimen:	If 'Tissue,' specify:	Date Collected:
_____	_____	__ __ / __ __ / __ __ __ __ m m d d y y y y
Test Requested:	**Source of Local Testing:**	**Result:**
☐ PCR	☐ Public Health Lab	☐ Positive
☐ Convalescent serology	☐ LRN	☐ Negative
☐ Acute serology	☐ Commercial lab	☐ Pending
☐ Culture	☐ other	☐ Indeterminate

Specimen 2

Specimen:	If 'Tissue,' specify:	Date Collected:
_____	_____	__ __ / __ __ / __ __ __ __ m m d d y y y y
Test Requested:	**Source of Local Testing:**	**Result:**
☐ PCR	☐ Public Health Lab	☐ Positive
☐ Convalescent serology	☐ LRN	☐ Negative
☐ Acute serology	☐ Commercial lab	☐ Pending
☐ Culture	☐ other	☐ Indeterminate

Specimen 3

Specimen:	If 'Tissue,' specify:	Date Collected:
_____	_____	__ __ / __ __ / __ __ __ __ m m d d y y y y
Test Requested:	**Source of Local Testing:**	**Result:**
☐ PCR	☐ Public Health Lab	☐ Positive
☐ Convalescent serology	☐ LRN	☐ Negative
☐ Acute serology	☐ Commercial lab	☐ Pending
☐ Culture	☐ other	☐ Indeterminate

Specimen 4

Specimen:	If 'Tissue,' specify:	Date Collected:
_____	_____	__ __ / __ __ / __ __ __ __ m m d d y y y y
Test Requested:	**Source of Local Testing:**	**Result:**
☐ PCR	☐ Public Health Lab	☐ Positive
☐ Convalescent serology	☐ LRN	☐ Negative
☐ Acute serology	☐ Commercial lab	☐ Pending
☐ Culture	☐ other	☐ Indeterminate

Supplement B: SARS Surveillance
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Specimen 5		
Specimen: _____	If 'Tissue,' specify: _____	Date Collected: __ __ / __ __ / __ __ __ __ m m d d y y y y
Test Requested: □ PCR □ Convalescent serology □ Acute serology □ Culture	Source of Local Testing: □ Public Health Lab □ LRN □ Commercial lab □ other	Result: □ Positive □ Negative □ Pending □ Indeterminate
Specimen 6		
Specimen: _____	If 'Tissue,' specify: _____	Date Collected: __ __ / __ __ / __ __ __ __ m m d d y y y y
Test Requested: □ PCR □ Convalescent serology □ Acute serology □ Culture	Source of Local Testing: □ Public Health Lab □ LRN □ Commercial lab □ other	Result: □ Positive □ Negative □ Pending □ Indeterminate
Specimen 7		
Specimen: _____	If 'Tissue,' specify: _____	Date Collected: __ __ / __ __ / __ __ __ __ m m d d y y y y
Test Requested: □ PCR □ Convalescent serology □ Acute serology □ Culture	Source of Local Testing: □ Public Health Lab □ LRN □ Commercial lab □ other	Result: □ Positive □ Negative □ Pending □ Indeterminate
Specimen 8		
Specimen: _____	If 'Tissue,' specify: _____	Date Collected: __ __ / __ __ / __ __ __ __ m m d d y y y y
Test Requested: □ PCR □ Convalescent serology □ Acute serology □ Culture	Source of Local Testing: □ Public Health Lab □ LRN □ Commercial lab □ other	Result: □ Positive □ Negative □ Pending □ Indeterminate

13. Alternative Diagnosis	
Was an alternative respiratory pathogen detected?	□ Yes □ No □ Unknown
If yes indicate which one (see list below): _____	

Supplement B: SARS Surveillance
(continued from previous page)

Alternative pathogen (e.g., Influenza A, Influenza B, RSV, rhinovirus, adenovirus, *Streptococcus pneumoniae*, *Haemophilus influenzae*, *Mycoplasma*, *Chlamydia pneumoniae*, human parainfluenza virus 1, human parainfluenza 2, human parainfluenza 3, human metapneumovirus, *Legionella* sp., other.):

14. List specimens sent to the CDC

Chose from the following specimens to enter below:
Whole blood, plasma, serum (acute), serum (convalescent), NP swab, NP aspirate, broncheoalveolar lavage specimen, OP swab, tracheal aspirate, pleural tap, urine, stool, tissue.

Specimen 1: _____	If 'Tissue', Specify: _____	Date Sent: __ __ / __ __ / __ __ __ __ (m m d d y y y y)
Specimen 2: _____	If 'Tissue', Specify: _____	Date Sent: __ __ / __ __ / __ __ __ __ (m m d d y y y y)
Specimen 3: _____	If 'Tissue', Specify: _____	Date Sent: __ __ / __ __ / __ __ __ __ (m m d d y y y y)
Specimen 4: _____	If 'Tissue', Specify: _____	Date Sent: __ __ / __ __ / __ __ __ __ (m m d d y y y y)
Specimen 5: _____	If 'Tissue', Specify: _____	Date Sent: __ __ / __ __ / __ __ __ __ (m m d d y y y y)
Specimen 6: _____	If 'Tissue', Specify: _____	Date Sent: __ __ / __ __ / __ __ __ __ (m m d d y y y y)
Specimen 7: _____	If 'Tissue', Specify: _____	Date Sent: __ __ / __ __ / __ __ __ __ (m m d d y y y y)
Specimen 8: _____	If 'Tissue', Specify: _____	Date Sent: __ __ / __ __ / __ __ __ __ (m m d d y y y y)

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(continued from previous page)

Notes

15. Notes:

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Note: List of areas with current confirmed or suspected SARS transmission

(If SARS-CoV transmission recurs, the list of foreign or domestic areas with documented or suspected recent local transmission of SARS–CoV will be listed here.)

Types of locations specified will vary (e.g., country, airport, city, building, floor of building). The last date a location may be a criterion for exposure for illness onset is 10 days (one incubation period) after removal of that location from CDC travel alert status. The patient's travel should have occurred on or before the last date the travel alert was in place. Transit through a foreign airport meets the epidemiologic criteria for possible exposure in a location for which a CDC travel advisory is in effect. Information regarding CDC travel alerts and advisories and assistance in determining appropriate dates are available at http://www.cdc.gov/ncidod/sars/travel.htm.

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Appendix B3
SARS Contact Report Forms

(Under development)